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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/439,545	11/12/1999	DAVID E. WOLF	04037-011001	1775

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EXAMINER
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CHAKRABARTI, ARUN K

ART UNIT	PAPER NUMBER
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1634

DATE MAILED: 05/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/439,545

Applicant(s)

Wolf

Examiner  
Arun Chakrabarti

Art Unit  
1634



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Dec 31, 2002
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above, claim(s) 22-62 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 0402 6) ☒ Other: Detailed Action

Art Unit: 1634

## DETAILED ACTION

### *Election/Restriction*

1. Applicant's election without traverse of Group I, corresponding to claims 1-21, in Paper No. 0403 is acknowledged.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 8-10, 13-16, and 18-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Goosen et al. (U.S. Patent 4,806,355) (February 21, 1989).

Goosen et al teaches an article (Abstract and Claims 1-5) comprising:

a core;

and a selectively permeable coating enclosing the core, the coating comprising a monodisperse polymer (Example 1, Column 6, lines 5-30).

Goosen et al teaches the article, wherein the polymer has a molecular weight of from about 1,0000 to 60,000 Da (Column 4, lines 2-30).

Art Unit: 1634

Goosen et al teaches the article, wherein the polymer is selected from the homo and heteropolymers of L-amino acids (Examples 1-12, and Column 3, lines 66-67).

Goosen et al teaches the article, wherein the polymer comprises a polyamino acid polylysine (Examples 1-12).

Goosen et al teaches the article, wherein the core comprises a hydrogel selected from alginate (Examples 1-12, and Column 5, lines 15-62).

Goosen et al teaches the article, wherein the core comprises an aqueous solution (Example 1).

Goosen et al teaches the article, further comprising a second selectively permeable monodisperse polymer coating on the first coating (Example 1, Column 6, lines 31-46)

Goosen et al teaches the article, further comprising a second and different selectively permeable monodisperse polymer coating on the first coating (Column 4, lines 22-29, and Example 1, Column 6, lines 31-46, and Examples 8 and 9 that use polyvinyl alcohol and polylactic acid respectively as polymer coating).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 1634

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4-7, and 11-12 are rejected under 35 U.S.C. 103(a) as being obvious over Goosen et al. (U.S. Patent 4,806,355) (February 21, 1989):

Goosen et al. teaches an article of claims 1-3, 8-10, 13-16, and 18-21 as described above.

Goosen et al does not teach an article, wherein the polymer has a molecular weight of from 1,000 to about 4,000 Da, and wherein polymer comprises from about 10 to 300 monomer units.

Goosen et al suggests that the molecular weight of the article may vary widely, depending on the degree of permeability required (Column 4, lines 2-4).

However, it is *prima facie* obvious that selection of the specific molecular weight of the polymer that depends on the number of monomer units of the polymer represents routine optimization with regard to production of desired degree of permeability (as explicitly suggested by Goosen et al), which routine optimization parameters are explicitly recognized to an ordinary practitioner in the relevant art. As noted *In re Aller*, 105 USPQ 233 at 235,

More particularly, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.

Routine optimization is not considered inventive and no evidence has been presented that the specific molecular weight and the number of monomer units of the polymer selection performed was other than routine, that the products resulting from the optimization have any unexpected

Art Unit: 1634

properties, or that the results should be considered unexpected in any way as compared to the closest prior art.

7. Claim 17 is rejected under 35 U.S.C. 103(a) as being obvious over Goosen et al. (U.S. Patent 4,806,355) (February 21, 1989) in view of Kinnersley et al. (U.S. Patent 5,593,947) (January 14, 1997).

Goosen et al. teaches an article of claims 1-3, 8-10, 13-16, and 18-21 as described above.

Goosen et al does not teach an article, wherein the core comprises a polyacrylamide gel.

Kinnersley et al. teach an article, wherein the core comprises a polyacrylamide gel (Column 4, line 39 to Column 5, line 4).

It would have been *prima facie* obvious to one having ordinary skill In the art at the time the invention was made to substitute and combine a structurally and functionally equivalent article, wherein the core comprises a polyacrylamide gel of Kinnersley et al in the microencapsulation article of Goosen et al. since Kinnersley et al. states, "The polymeric amino acids of this invention can be used in combination with other water soluble organic polymers to provide more efficient utilization of both natural and synthetic plant growth nutrients (Column 4, lines 55-59) ". Moreover, further motivation is provided by Goosen et al as Goosen et al states, "The microcapsules take the form of a biocompatible semi-permeable hydrogel membrane which permits the passage of materials and oxygen to the cells and metabolic products from the cells while retaining the cells encapsulated (Abstract, second sentence)". An ordinary practitioner would have been motivated to substitute and combine a structurally and functionally equivalent

Art Unit: 1634

article, wherein the core comprises a polyacrylamide gel of Kinnersley et al. in the microencapsulation article of Goosen et al in order to achieve the express advantages, as noted by Kinnersley et al., of water soluble organic polymer polyacrylamide gel that provides more efficient utilization of both natural and synthetic plant growth nutrients and also in order to achieve the express advantages, as noted by Goosen et al., of the microcapsules that take the form of a biocompatible semi-permeable hydrogel membrane and which permits the passage of materials and oxygen to the cells and metabolic products from the cells while retaining the cells encapsulated.

### *Conclusion*

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arun Chakrabarti whose telephone number is (703) 306-5818. The examiner can normally be reached on 7:00 AM-4:30 PM from Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion, can be reached on (703) 308-1119. The fax phone number for this Group is (703) 305-7401.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group analyst Chantae Dessau whose telephone number is (703)605-1237.

Application/Control Number: 09/439,545

Page 7

Art Unit: 1634

Arun Chakrabarti,

Patent Examiner,

April 18, 2003

*Arun kr. Chakrabarti*  
**ARUN K. CHAKRABARTI**  
**PATENT EXAMINER**